REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

Disposition of Claims

Claims 1-15 are pending in this application. Claims 1, 14, and 15 are independent. The remaining claims depend, directly or indirectly, from claim 1. By way of this reply, claim 3 has been canceled, and claims 1-2 and 4-15 have been amended.

Claim Amendments

Claims 1-2 and 4-15 have been amended to clarify the present invention recited and to correct minor informalities. In particular, independent claims 1 and 14 have been amended to include all limitations of claim 3, and, accordingly claim 3 has been canceled without prejudice or disclaimer. No new matter has been added by way of these amendments, as support for these amendments may be found, for example, in the original claim 3 as filed.

Independent claim 15 has been amended to clarify that the output electricity is obtained directly by subtracting the offset current from said current generated by said photodiode, or by adding the offset current to said current generated by said photodiode. No new matter has been added by way of this amendment, as support for this amendment may be found, for example, in paragraph [0056] of the published application (Pub. No. 2005/0025498 A1).

Drawings

Applicant respectfully requests the Examiner indicate acceptance of the formal drawings filed on April 8, 2004.

Rejections under 35 U.S.C § 112

Claims 10 and 12 stand rejected as being indefinite. Claims 10 and 12 have been amended to clarify the present invention recited. As disclosed in the Specification of the application (*see, e.g.*, paragraph [0056] of the published application), the average value to be subtracted or added is the average value of the currents generated by the light receiving unit when receiving different (H and L) logics. Accordingly, withdrawal of this rejection is respectfully requested.

Rejection(s) under 35 U.S.C § 102

Claims 1, 5-6 and 15 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,467,192 ("Velo"). Independent claims 1 and 15 have been amended by way of this reply to clarify the recited invention. To the extent that the rejection may still apply to amended claims, this rejection is respectfully traversed.

Independent claim 1 has been amended to include all the limitations of claim 3, which is not anticipated by Velo. Thus, amended independent claim 1 is patentable over Velo, and dependent claims 5-6 are allowable for at least the same reasons.

With regard to amended independent claim 15, Velo fails to disclose at least a circuit that provides the output electricity directly by subtracting the offset current from the

current generated by the photodiode, or by adding the offset current to the current generated by the photodiode. Referring to Fig. 1 and col. 3, lines 7—8 of Velo, the sum of the information current and the purported offset current (I+i) is fed into a current splitter 400, and is *not* the output current.

In view of the above, Velo fails to disclose each and every limitation of amended independent claims 1 and 15. Thus, amended independent claims 1 and 15 of the present application are patentable over Velo. Dependent claims 5-6 are allowable for at least the same reasons set forth above. Accordingly, withdrawal of this rejection is respectfully requested.

Rejection(s) under 35 U.S.C § 103

Claims 1-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,381,054 ("Okayasu"). By way of this reply, claim 3 has been canceled, and the remaining claims have been amended. To the extent that the rejection may still apply to the amended claims, this rejection is respectfully traversed.

Amended independent claims 1 and 14 require, in part, a variable setting unit for setting the photoelectric conversion circuit to generate predetermined electric communication data or test signal in response to an input level of the received optical communication data, by adding to, or subtracting from, the receiver-generated current a predetermined current.

Okayasu, in contrast to the present invention as recited in independent claims 1 and 14, fails to teach or suggest at least a variable setting unit for setting the photoelectric conversion circuit.

In the instant Office Action (page 6, lines 11—12), the Examiner asserts that Okayasu discloses "a variable setting unit (110A-C, 111A-B, Fig. 10)." However, as evident from the symbolic representations used for 110A-C in Fig. 10, and as clearly stated in, for example, col. 27, lines 32—36, these are *constant-current* circuits. Using two current switches 111A-B to switch on and off the constant-current circuits, the light *emitting* device is directly *injected* with a combination of three constant currents and emits pulsed light signals.

In the instant Office Action (page 6, lines 20—22), the Examiner asserts that "at the time of the invention it would have been obvious to a person of ordinary skill in the art to implement the variable setting unit methodology to receive side rather than the transmitter side..." If the Examiner draws the conclusion based on his personal knowledge, Applicant respectfully requests that an affidavit under 37 CFR 1.104(d)(2) be provided. As known to a person of ordinary skill in the art, light emitting devices (such as lasers) and photo-receivers (such as photodiodes) work in distinctly different ways and require distinctly different driving circuits. For example, a light emitting device needs to be *injected* with a current higher than a threshold value, while a photo-receiver usually requires a bias voltage. Had the constant-current circuits 110A-C and the switches 111A-B been applied to a photo-receiver, there would have been no effect on the output current from the photo-receiver, the latter being determined by the number of carriers (electrons and holes) produced by incident photos and by a bias voltage applied across the photo-receiver. Thus, the constant-current circuits of Okayasu cannot possibly be used to set a photoelectric conversion circuit to generate electric communication data in response to an input level of received optical communication data.

The Examiner further states in the instant Office Action (page 7, lines 3—6) that "the motivation for doing so would have been cost savings on a redundant use of multiple variable setting units within transmitter-receiver systems wherein there are several transmitters and only one receiver." This is also incorrect and is apparently based on confusing a constant-current circuit with a variable setting circuit. In addition, the transmitter-receiver system with several transmitters and only one receiver as proposed by the Examiner cannot possibly work because of "skew" problems.

With regard to amended independent claim 15, Okayasu fails to teach or suggest at least the output electricity obtained directly by subtracting the offset current from the current generated by the photodiode, or by adding the offset current to the current generated by said photodiode.

In view of the above, Okayasu discloses an apparatus distinctly different from that of the claimed invention and fails to teach or suggest all limitations of amended independent claims 1, 14, and 15. Thus, amended independent claims 1, 14, and 15 are patentable over Okayasu for at least the reasons set forth above. Dependent claims 2 and 4-13 are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please allow for a one-month extension of time, and apply any charges not covered, or any credits, to Deposit Account 50-0591, Reference No. 02008.156001.

Dated: May 18, 2006

Respectfully submitted,

By: _____

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